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| Notice of Allowability | Application No. | Applicant(s) | |
| | 09/746,065 | INOUE ET AL. | |
| | Examiner Armando Rodriguez | Art Unit 2828 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTO-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. This communication is responsive to Declaration filed November 12, 2003.
 2. The allowed claim(s) is/are 1-3 and 5-26.
 3. The drawings filed on 26 December 2000 are accepted by the Examiner.
 4. Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) All b) Some* c) None of the:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).
- * Certified copies not received: _____.
5. Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
 - (a) The translation of the foreign language provisional application has been received.
 6. Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
- Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application. **THIS THREE-MONTH PERIOD IS NOT EXTENDABLE**
7. A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
 8. CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) hereto or 2) to Paper No. _____.
 - (b) including changes required by the proposed drawing correction filed _____, which has been approved by the Examiner.
 - (c) including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No. _____.

Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the margin according to 37 CFR 1.121(d).

9. DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

- | | |
|---|---|
| <input type="checkbox"/> Notice of References Cited (PTO-892) | <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | <input type="checkbox"/> Interview Summary (PTO-413), Paper No. _____. |
| <input checked="" type="checkbox"/> Information Disclosure Statements (PTO-1449 or PTO/SB/08), Paper No. <u>10-13-2003</u> | <input type="checkbox"/> Examiner's Amendment/Comment |
| <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit of Biological Material | <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance |
| | <input type="checkbox"/> Other |

PAUL J.
PAUL IP

PROVISIONAL PATENT EXAMINER
TECHNOLOGY CENTER 2800

DETAILED ACTION

Information Disclosure Statement

The information disclosure statement filed October 31, 2003 fails to comply with the provisions of 37 CFR 1.97, 1.98 and MPEP § 609 because the Japanese reference 9-083071 has not been provided with an English language translation. It has been placed in the application file, but the information referred to therein has not been considered as to the merits. Applicant is advised that the date of any re-submission of any item of information contained in this information disclosure statement or the submission of any missing element(s) will be the date of submission for purposes of determining compliance with the requirements based on the time of filing the statement, including all certification requirements for statements under 37 CFR 1.97(e). See MPEP § 609 ¶ C(1).

Response to Amendment

The declaration under 37 CFR 1.132 filed November 12, 2003 is sufficient to overcome the rejection of claim 1 based upon the 35 USC 103 rejection of Okuba et al in view of Hiroyama et al.

Allowable Subject Matter

Claims 1-3,5-26 are allowed.

The following is an examiner's statement of reasons for allowance:

After reviewing applicant's amendments, arguments and conducting an updated search examiner finds that none of the cited prior arts alone or in combination discloses

the claimed semiconductor laser having the structural combination of independent claims 1, 7 and 17 with the structural interconnection of the active layer, cladding layer, current blocking layer, low carrier concentration layer and depletion layer as recited in claims 1, 7 and 17.

Regarding claims 1-3,5,6,8,9,12-16,

None of the prior arts alone or in combination discloses the claimed structural combination of dependent claim 1 having the depletion layer and a current blocking layer formed on the cladding layer except for the current injection region, where the depletion layer provides the function of inhibiting storage of carriers in a low carrier concentration layer and a depletion layer thickness of at least 10 nm.

Regarding claims 7,10,11

The following is a statement of reasons for the indication of allowable subject matter: None of the prior arts alone or in combination discloses the claimed structural combination of dependent claim 7 having the depletion layer, low carrier concentration layer and a current blocking layer successively formed on the cladding layer except for the current injection region, where the depletion layer provides the function of inhibiting storage of carriers in the low carrier concentration layer.

Regarding claims 17-26,

None of the prior arts alone or in combination discloses the claimed structural combination of dependent claim 17 having the depletion layer and the current blocking layer formed on the cladding layer except for the current injection region, where the depletion layer provides the function of inhibiting storage of carriers in a low carrier

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concentration layer with an energy bandgap for supplying second conduction type carriers and a depletion layer thickness of at least 10 nm.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Armando Rodriguez whose telephone number is 571-272-1952. The examiner can normally be reached on 10-hour day / M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Paul Ip can be reached on 571-272-1941. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-4881.


Armando Rodriguez
Examiner
Art Unit 2828


Paul Ip
Supervisor
Art Unit 2828

AR/PI